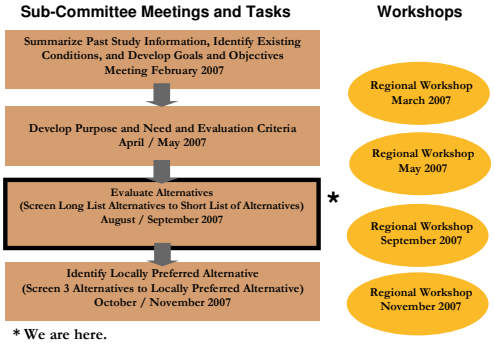
South Davis Transit
Draft Environmental Impact Statement

Sub-Committee Meeting

Meeting Agenda

1. Welcome and Introductions
2. Where are we in the process?
3. Purpose and Need
4. Report back on Regional Workshop
5. Long List of Alternatives
   - Alignments
   - Modes
   - Modes Exercise
6. Next steps – Next Meeting

Project Process



* We are here.

Purpose and Need

- The WHY behind a project
- Written to reflect the goals and objectives stated in the community
- Designed to address why this project is needed, and what problems it could solve
- The Purpose and Need was the basis for developing the criteria by which we evaluate alternatives

Purpose

Purpose (of a transportation project in South Davis is to):

- Increase mobility within the area
- Connect to transportation options outside Davis County
- Serve the demand for north/south travel, while also improving east/west connectivity
- Reduce auto use by providing transit options
- Expand transportation mode choice and to integrate land use plans
- Promote coordination with auxiliary facilities that make transit attractive to the passenger

Need

Need (to implement a *transit* solution):

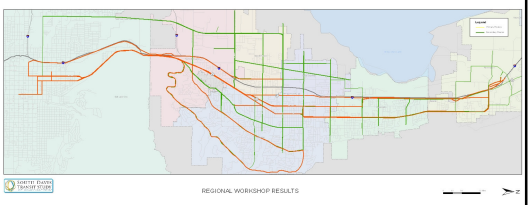
- Fulfill public support for transit
- Address problems arising from increasing travel demand
- Address congestion at key intersections
- Integrate land use and transportation investments

May Regional Workshop – Recap

Preliminary Alternatives Exercise

1. Origins and destinations
2. Alignment
3. Identification of mode

Regional Workshop Alternatives



Primary Alignments Identified

Secondary Alignments Identified

Regional Workshop Alternatives

Most common primary alignment suggestions:

- Salt Lake City- 300 W. and 400 W.
- North Salt Lake – Main St. (Highway 89)
- Bountiful – Main St. and 200 West
- Centerville – Main St. (S.R. 106) and Frontage Road
- Farmington – S.R. 106 and Frontage Road

Most common secondary alignment suggestions:

- North Salt Lake – Center, Orchard, Redwood, 3100, Davis Blvd.
- Woods Cross – Redwood, 2600 South, 1500 South
- West Bountiful – Pages Lane, 500 South
- Bountiful – Mueller Park, 400 North
- Centerville – Pages, Porter

"Universe of Alternatives"

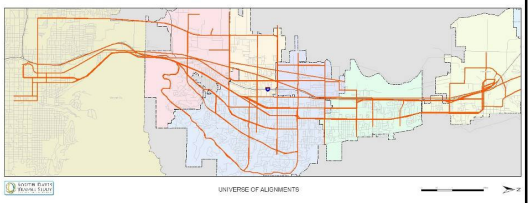
Alignment + Mode = Alternative

- Narrow from a *"Universe of Alternatives"*
- All possible alignments
- All possible modes
- Apply general screening criteria
- Arrive at a list of reasonable alternatives for both *alignments and modes*

Alignments

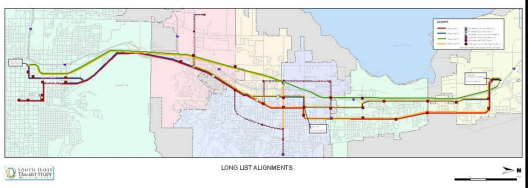
Universe of Alignments

All possible alignments!



Long List Alignments

Map of preliminary alignments being taken through the alternatives analysis process.



Narrowing Alignments

Criteria used to narrow down the alignments:

- Serves existing or planned centers of population and/or employment density
- Public support for the alignments
- Field visits

Modes

Universe of Modes

- Bus Rapid Transit (BRT)
- Light Rail Transit (LRT)
- Commuter Rail
- Streetcar
- Diesel Multiple Unit (DMU)
- Bus
- Cable Cars and Funicular Railways
- Heavy Rail
- Monorail
- Automated Guideway Transit
- Personal Rapid Transit
- Aerial Tramway
- Ferry Service





Narrowing Modes

Criteria used to determine the appropriate modes:

- The technology is appropriate for the size/scale of the South Davis study area
- The technology has been implemented in a similar context with proven success
- The technology is financially feasible

Long List Modes

Rail

- Streetcars
- Light Rail (LRT)
- Diesel Multiple Unit (DMU)

Bus

- Traditional Bus
- Enhanced Bus
- Bus Rapid Transit (BRT)

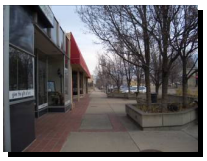
Factors to Consider

- Market –Where do you need to go?
- Capacity – How many people does it carry?
- Operating Characteristics- How fast does it go? How often does it stop?
- Costs – How much does it cost?
- Environmental/Community Considerations – Does it fit within the community? Does it allow for good traffic flow?
- Access – Who can get to it? Can you still get to other places? What happens to traffic? Is it easy to board?

Factors to Consider

Market

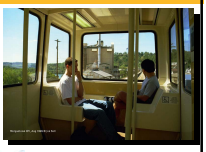
- Where do people need to go?
- Why: work, school, events?
- How quickly do they need to get there?

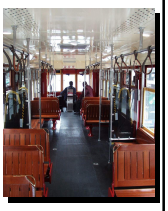


Factors to Consider

Capacity

- Seated
- Standing
- Ability to expand



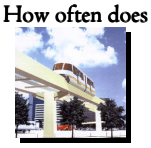



Factors to Consider

Operating Characteristics

- Speeds – average and maximum speed
- Does it operate with traffic, or separate?
- Maneuverability – speeds, grades, curves
- How often does it stop?

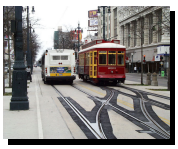





Factors to Consider

Costs

- Capital – vehicles, infrastructure, land
- Operating – employees, maintenance
- How do we pay? Consider overall project expense.




Factors to Consider

Environmental/Community Considerations

- Noise/Vibration
- Air Quality
- Traffic and circulation
- Land Use/Community Character
- Is property acquisition required? How much?
- Auto access to property



Factors to Consider

Access

- Bicycle
- Pedestrian
- Auto
- Bus
- Disabled passengers
- Access to other modes




Exercise

Long List Modes

Rail

- Streetcars
- Light Rail (LRT)
- Diesel Multiple Unit (DMU)

Bus

- Traditional Bus
- Enhanced Bus
- Bus Rapid Transit (BRT)

Long List Modes

For each mode:

- Description
- Typical characteristics based on how these modes have been implemented in other communities

Streetcar

Description:

Short lines that share city streets to provide circulation or connector services. Operate on steel rails with overhead electrical power.

Portland Streetcar

New Orleans Streetcar

San Francisco Streetcar

Streetcar

Typical Characteristics:

Cost to build (per mile):	$2-8 million (historic) – assumes track in place $25-35 million (modern)
Range of vehicle cost:	800K – 1 million (historic) 2.6 million – 3 million (modern)
Typical length of line:	5 miles or less (Longer distances have been utilized in other countries)
Distance between stations:	¼ to ½ mile
Speeds (Avg./Max):	8-15 mph/45 mph
Frequency:	10-15 min. (peak) 30-60 min. (off-peak)
Car Capacity:	50-100 seated + standing

Light Rail (LRT)

Description:

Medium capacity, higher speed service in urban areas. Operate on steel rails with overhead electric power. Can operate with, or separate from traffic and share city streets.

DART - Dallas

TRAX - Salt Lake City

RTD - Denver

Light Rail (LRT)

Typical Characteristics:

Cost to build (per mile):	$40-100 million (The higher cost estimate would include additional engineering such as tunnels, etc.)
Range of vehicle cost:	$3.2–4 million
Typical length of line:	5-20 miles
Distance between stations:	½ to 2 miles
Speeds (Avg./Max):	20-25 mph/65 mph
Frequency:	5-10 min. (peak) 10-20 min. (off-peak)
Car Capacity:	160-200 seated + standing

Diesel Multiple Unit (DMU)

Description:

Medium capacity, higher speed, long-distance service from suburbs to downtown. Use diesel powered vehicles, with no overhead wires, operating on railroad tracks.

*This option is only being considered along the existing FrontRunner Commuter Rail line.

River Line - New Jersey

Trinity Railway Express – Dallas

O Train - Ottawa

Diesel Multiple Unit (DMU)

Typical Characteristics:

Cost to build (per mile):	$10-50 million using existing railway line
Range of vehicle cost:	3.3 million – 4 million
Typical length of line:	15-30 miles
Distance between stations:	2-4 miles
Speeds (Avg./Max):	25-30 mph/75 mph
Frequency:	15-30 min. (peak) 30-60 min. (off-peak)
Car Capacity:	75-218 seated + standing

Bus Rapid Transit (BRT)

Description:

BRT provides reduced travel times and improved user friendliness over traditional bus service with:

- Preferential or exclusive bus lanes
- Signal prioritization – does not wait at signals
- Improved fare collection process – prior to boarding
- Easier boarding system – typically "low floor"
- Enhanced Passenger Information Technology

Curitiba, Brazil

Las Vegas

Bus Rapid Transit (BRT)

Typical Characteristics:

Cost to build (per mile):	$5-7 million (exclusive curb lane) $7-10 million (median striped guideway) $20-30 million (fixed guideway)
Range of vehicle cost:	$ 800K to 1 million
Typical length of line:	5-20 miles
Distance between stations:	½ -2 miles
Speeds (Avg./Max):	20-25 mph/65 mph
Frequency:	10-15 min. (peak) 15-30 min. (off-peak)
Car Capacity:	60 seated + standing 90 on articulated buses

Bus

Description:

Most common type of public transit, due largely to its flexibility, low capital costs, and ability to serve a wide range of travel markets. Typically operates in mixed traffic on roadways (though some have exclusive busways or lanes). Power source is variable, but most commonly diesel fuel.



Bus

Typical Characteristics:

Cost to build (per mile):	$1-5 million (primarily vehicle cost)
Range of vehicle cost:	$350 – 500K
Typical length of line:	5-20 miles
Distance between stops:	¼ - 2 miles
Speeds (Avg./Max)	Posted speed limit
Frequency:	15-30 min. (peak) 30-60 min. (off-peak)
Car Capacity:	60 seated + standing 90 on articulated buses

Exercise

What is important to you?

What features are important to you?

- Project Cost?
- Travel time?
- Frequency?
- Appearance?
- Ability to serve long/short distances?
- Capacity?
- Reliability?
- Access?

Next Steps

Next Steps

Long List to Short List

Analysis

For each alignment and mode, conceptual understanding of:

- Ridership
- Travel time (mobility improvements)
- Cost
- Environmental and Right-of-Way Impacts
- Land Use Effects
- Public Input

Third Regional Workshop

Regional Workshop

Format:

- "Put it all together"
- Results of analysis
- Workshop format to choose alternatives